

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation Into
Implementation of Assembly Bill 970 Regarding
the Identification of Electric Transmission and
Distribution Constraints, Actions to Resolve
Those Constraints, and Related Matters Affecting
the Reliability of Electric Supply.

Investigation 00-11-001
(Filed November 2, 2000)

**ADMINISTRATIVE LAW JUDGE'S RULING
ON DEVELOPMENT OF RENEWABLES TRANSMISSION
PLAN PURSUANT TO SENATE BILL 1038**

Senate Bill (SB) 1038 directs that the Commission produce a transmission plan for renewable electricity generation facilities, to be informed by a renewable resource assessment study conducted by the California Energy Commission (CEC):¹

§ 383.5 (j). The Energy Commission shall, by December 1, 2003, prepare and submit to the Legislature a comprehensive renewable electricity generation resource plan that describes the renewable resource potential available in California, and recommendations for a plan for development to achieve the target of increasing the amount of electricity generated from renewable sources per year, so that it equals 17 percent of the total electricity generated for consumption in California by 2006. The Energy Commission shall consult with the commission, electrical corporations, and the

¹ Stats 2002, Ch. 515, Sher. All code sections presented in today's ruling refer to the Public Utilities Code.

Independent System Operator, in the development and preparation of the plan.

§ 383.6. The [California Public Utilities] commission shall, by December 1, 2003, prepare and submit to the Legislature, a comprehensive transmission plan for renewable electricity generation facilities, to provide for the rational, orderly, cost-effective expansion of transmission facilities that may be necessary to facilitate the development of renewable electricity generation facilities identified in the renewable electricity generation resource plan prepared pursuant to subdivision (j) of Section 383.5. The commission shall consult with the [California Energy] Commission, the Independent System Operator, and electrical corporations in the development and preparation of the plan.

Today's ruling establishes the schedule and process for the development of the transmission planning report required by SB 1038, based on discussion at the January 14, 2003 prehearing conference (PHC), submitted comments, and consultations with Energy Division. I am requesting further comments from the utilities and interested parties on a preliminary scope of work for the Renewables Transmission Study, which is presented in Attachment 2. The development of the SB1038 transmission study is now referred to as "Phase 7" of this proceeding.

In addition, I approve the motion by Go-Energy Partners-1983 LTD (Geo-Energy Partners) to intervene in this proceeding.

**Development of SB 1038 Renewables
Transmission Study (Phase 7)**

Per SB 1038, the Commission's renewables transmission study will rely on the renewable resource assessment study to be conducted by the CEC. Both studies are due to the Legislature by December 1, 2003. As indicated in my January 2, 2003 ruling, the CEC will make available its draft resource assessment results by July 1, 2003 so that the Commission may proceed expeditiously with

its transmission study. At the January 14, 2003 PHC, I requested that the CEC describe the scope and content of what they will be able to hand off to this Commission on July 1. The CEC's response is attached to this ruling. (See Attachment 1.)

We also discussed at the PHC how to solicit public comments on the utilities' proposed renewables transmission plans before (as well as after) they are presented to the Commission. The California Independent System Operator (ISO) indicated that the utilities would be leading stakeholder processes this spring to establish the base cases for their five-year transmission expansion plans at the ISO. Then, once the CEC makes available their renewables assessment, the ISO and the utilities plan to evaluate whether the base cases could accommodate the additional resources, and if not, what additional transmission might be required in the five-year plan. Although the five-year plan would not be completed in the timeframe required for the SB 1038 submittal, the ISO suggested that the stakeholder process could still be an appropriate forum for public input on the utilities' proposed renewables transmission plans before they are submitted to the Commission. The ISO would take no action on the proposals, but rather facilitate the public input process through an additional stakeholder meeting in July, 2003.²

Based on the discussion at the PHC and subsequent input from CEC, ISO and Energy Division, I adopt the process and schedule for the development of the SB 1038 renewables transmission study outlined below:

² See Reporter's Transcript at 412-425 and January 24, 2003 letter from ISO filed in this docket.

1. The CEC will develop a renewables resource assessment and issue a draft assessment by July 1, 2003 as described in Attachment 1.
2. In the spring, the utilities will develop their transmission plan base cases and study plans through the usual stakeholder process overseen by the ISO grid planning department. Energy Division will attend these meetings, as needed, to become familiar with the base case plans that will be used in the SB 1038 transmission study.
3. In July, the ISO will host an additional stakeholder meeting to facilitate development by the utilities of study plans to assess, using the base cases developed for the regular planning process, the additional transmission facilities that would be required to accommodate the resources identified by the CEC. Energy Division will attend this meeting.
4. Consistent with the study plans developed in the stakeholder meeting, the utilities will undertake the studies to identify transmission additions needed to accommodate the renewable resources identified by the CEC and file their final reports in this proceeding by August 29, 2003.
5. All parties will have an opportunity to comment on the utility reports by September 15, 2003.
6. A workshop will be hosted by Energy Division to discuss the utility reports and the comments on September 23, 2003.
7. The Energy Division will prepare a draft report setting forth the renewables transmission plan for each utility. The report shall include a summary of the written comments and workshop discussion, identify any areas of disagreement, describe the positions of the parties on those areas, and present Energy Division's recommendations and rationale on how to reconcile those differences. Energy Division's draft report is due to me by

October 10, 2003. I estimate at this time that a draft decision will be issued by October 15, 2003 for comment.

8. Comments on the draft decision will be due by October 27, 2003, and reply comments will be due by November 3, 2003. A final decision will be placed on the Commission's agenda for November 13, 2003, which is the last scheduled meeting in November.

The approach outlined above meets the clear intent of SB 1038 that this Commission coordinate and consult with the CEC, ISO and the utilities in developing the renewables transmission plan. However, it also means that the fulfillment of the Commission's statutory obligations is dependent upon the timely and complete submission by the CEC of a draft renewables resource assessment. The coordinated approach adopted above also relies upon an ISO grid planning process that remains on schedule. However, I am confident, based on the cooperative discussions at the PHC, that the CEC and ISO recognize this interdependence, and will put top priority on the completion of their designated tasks, as will this Commission.

For this coordinated approach to be successful, the appropriate forum for public input on SB 1038 study issues needs to be clear. As discussed in Attachment 1, the CEC will be providing an opportunity for public input into the development of their renewable resource assessment. The utilities will also be leading public meetings (referred to the "stakeholder process") at the ISO to obtain public input on what the base case should be for their transmission expansion study plans.³ We expect parties that are interested in these issues to participate actively in the CEC and ISO forums. We will not revisit these issues

³ *Ibid.*

for the purpose of developing the SB 1038 transmission study to the Legislature during Phase 7.⁴

Scope of Work for SB 1038 Renewables Transmission Study

Per my January 29, 2003 ruling, the utilities have been working with Energy Division to develop a proposed scope of work for the Commission's SB 1038 study. Based on those discussions, Energy Division has developed a description of the scope of work, which is appended as Attachment 2. Utilities and interested parties may submit comments on this description within 10 days from the date of this ruling. Reply comments are due five days thereafter. After further consultation with Energy Division, I will issue a ruling setting forth the scope of the SB 1038 transmission study.

Statement of Geo-Energy Partners

On February 14, 2003, Geo-Energy Partners filed a statement in this proceeding that requested two things:⁵ (1) that Geo-Energy Partners be allowed to participate in this proceeding as a party and present evidence, and (2) that the Commission address two specific transmission line upgrade projects by

⁴ Nothing in today's ruling is intended to preclude the Commission from revisiting transmission planning or resource potential assumptions in the context of other proceedings or in other phases of this proceeding. However, for the purpose of preparing the Phase 7 report to the Legislature, the process described in today's ruling is only workable if there is a direct "hand off" of the base case transmission planning assumptions that result from the ISO's grid planning process, and of the renewable resource assessment developed by the CEC.

⁵ See Statement of Geo-Energy Partners-1983 LTD on Transmission Constraints for Selected New Renewable Power Projects Serving California Electric Supply.

requiring Southern California Edison Company to study these upgrades as part of this proceeding.

I am treating the first request as a Motion To Intervene (Motion) in this proceeding. As described in the February 14, 2003 filing, Geo-Energy Partners has been a member of the Western Electricity Coordinating Council and active in the geothermal resources industry for 19 years. Geo-Energy Partners has a clear interest in transmission issues related to the development of those resources, and should be allowed to intervene in this proceeding. Therefore, I approve Geo-Energy Partners' first request.

As for the second request, however, I find that it is procedurally improper and beyond the scope of next phases of this proceeding, as defined in my January 29, 2003 ruling. In response to similar requests by other project developers, I directed the utilities to move forward without delay in responding to developers' requests for conceptual studies (including cost estimates) for transmission projects involving access to renewable resources.⁶ Geo-Energy Partners should review that ruling and contact the utilities regarding their recent solicitation letters to industry participants. The letters afford developers the opportunity to request and fund transmission studies for projects that they are interested in developing to address the renewables goals set forth in SB 1078.

IT IS RULED that:

1. The schedule for Phase 7 (SB 1038 Renewables Transmission Plan), as outlined in this ruling, is adopted.

⁶ See Administrative Law Judge's Ruling and Notice of Evidentiary Hearings on Tehachapi Transmission Project, January 29, 2003, pp. 6-9.

2. The utilities and interested parties should comment on the Scope and Framework of the SB 1038 Renewables Transmission Study presented in Attachment 1. Comments are due 10 days from the date of this ruling, and replies are due five days thereafter.

3. Geo-Partners Energy's Motion to Intervene is approved.

4. All comments and filings required by this ruling shall be served

Dated February 26, 2003, at San Francisco, California.

/s/ MEG S. GOTTSTEIN

Meg S. Gottstein
Administrative Law Judge

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO CA 95814-5512



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January 29, 2003

The Honorable Meg Gottstein
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

RE: I.00-11-001, Transmission and Renewable Resources

Dear Judge Gottstein:

Pursuant to your request at the recent Prehearing Conference (PHC) in this docket, the California Energy Commission (Energy Commission) is pleased to provide the following information concerning our July 1 draft resource assessment.

As you know, Senate Bill 1038 (Chapter 515, Statutes of 2002, [SB 1038]) requires the Energy Commission to develop a renewable resource plan by December 1, 2003. This resource plan will serve as the basis for the transmission plan that SB 1038 requires the California Public Utilities Commission (CPUC) to develop. There was considerable discussion about the nature of the Energy Commission's July 1 draft renewable resource plan during the January 14th PHC. Accordingly, we are providing the following description of what that product will and will not contain.

By way of background, the staffs of the CPUC and Energy Commission have been discussing what the CPUC will need in order to prepare its transmission plan and by when. The Energy Commission will ensure that its staff continues to coordinate with the CPUC throughout this proceeding as well. Since, as we understand it, the goal of this first renewable transmission assessment is to determine whether certain transmission upgrades need to be evaluated at a project-specific level, we plan to focus on the planning years that the California Independent System Operator (CAISO) will be using for its 2003 grid planning study—2005 and 2008.

On July 1, the Energy Commission will provide to the CPUC a preliminary renewable resource assessment which will assume a level of renewable development in 2005 and in 2008 sufficient to allow Pacific Gas & Electric, Southern California Edison, San Diego

Gas & Electric, and any other "obligated entities" to achieve the incremental Renewable Portfolio Standard (RPS) goals embodied in Senate Bill 1078 (Chapter 516, statutes of 2002). We will be providing an opportunity for public input into the development of this

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renewable resource assessment, and we welcome the comments of the CPUC, the utilities, the CAISO and renewable developers. We will publish an initial draft of the assessment by early June and request public comment on the draft.

The resource assessment will provide renewable megawatt additions for the transmission plan's target years by technology type and by renewable resource locations, e.g., Tehachapi, Salton Sea, San Geronio, Altamont, and Siskiyou County. We will also include an analysis of renewable resource potential by technology type and location, as SB 1038 requires. This analysis will provide transmission planners with some basis for developing bounding cases for renewable resource development.

While the assessment will be as detailed as it can reasonably be, it will not contain project-specific information. It is speculative to assume that any given project will emerge as a winner in a future RPS solicitation, since rules for this solicitation have not yet been established. Further, since the Energy Commission's SB 1038 renewable resource plan is not due until December 2003, the July 1 assessment will be preliminary. New information could become available after July that may alter our assumptions. Still, the plan should permit a reconnaissance level analysis of current and/or potential transmission constraints. In addition, the Energy Commission staff will continue to collaborate with the CPUC staff after July 1, so that both the Energy Commission's renewable resource plan and the CPUC's renewable transmission plan remain as coordinated as possible as they are developing.

I hope the above information is responsive to your request.

Sincerely,

Jennifer Tachera
Staff Attorney
California Energy Commission

cc: Service List for I. 00-11-001

(END OF ATTACHMENT 1)

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Scope of Work For SB 1038 Renewable Transmission Study

The Purpose of the Study

Senate Bill (SB) 1038 requires the California Public Utility Commission to provide a transmission plan for renewable electricity generating facilities by December 1, 2003. The purpose of this study is to present information to the Legislature about transmission upgrades that may be needed to interconnect and deliver new renewable generation. The study will focus on identifying the scope and costs of new transmission facilities, potential new line routes, potential new substation locations and, as appropriate, critical issues that might affect the development of those facilities.

Scope of Work

The study will examine how the utilities' transmission network may need to be expanded to accommodate the renewable generation identified in the California Energy Commission's (CEC) July 1, 2003 preliminary renewable resource assessment. In cases where there is congestion between the point of insertion into the grid and the load center, the study will also identify the facilities needed to relieve the congestion.

Under companion legislation SB 1078, which establishes the Renewable Portfolio Standard (RPS) Program, the utilities are required to develop procurement plans that include a solicitation of renewable generation resources to meet the statutory goals. However, those procurement plans are currently under development, and the results of the first solicitation will not be available in time for inclusion in the Commission's report to the Legislature. Therefore, the SB 1038 transmission study will not, by definition, take a position on which potential renewable generation facilities might actually be developed. The study will present a renewable transmission expansion plan that will require further refinements, once the results of the RPS solicitations are known, and specific interconnection studies have been undertaken. However, it will present an informative, broad plan that identifies cost-effective expansions to the transmission grid in response to the CEC's preliminary assessment, as described further below.

The following sections provide further direction on the scope of work for the utilities' proposed plans and the Commission's report to the Legislature:

1. The utilities shall each formulate a plan for connecting to the electrical network the new renewable resource generation identified by the CEC. The plans will provide for phased construction, e.g., single 230 kV circuit on double circuit towers in 2005, second 230 kV circuit strung in 2008, as appropriate to accommodate the renewable generation development identified in the CEC's assessment. Each utility's plan shall include all the transmission facilities, including new lines and substations and upgrades to existing lines and substations, to transmit the power from the power sources to the load centers.

In the case of geothermal sources, the transmission will connect to the takeoff structure at the power plant switchyard. In the case of wind farms, the transmission will start

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with the substation used to transform the medium voltage of the feeders from the wind farm to transmission voltage for insertion into the grid. Standard reliability criteria will be applied to the generator transmission connections, that is, remedial action schemes will be depended upon rather than redundant circuits for mitigating the effects of forced line outages. As described further in #3 below, in cases where there is congestion between the point of insertion into the grid and the load center, the utilities will identify the level of congestion and identify the facilities needed to relieve the congestion.

2. In developing their plans, the utilities will utilize the base case transmission plans currently being developed through the ISO's grid planning process, and assess modifications to the base plan in response to the CEC's July 1, 2003 preliminary renewable resource assessment. In that assessment, the CEC will identify for the years 2005 and 2008 new renewable resources in terms of general location and megawatt (MW) capacity. The report will most likely identify a resource as being of a certain type (geothermal, wind, etc.), of a certain capacity (MW), and in a general area. For the purpose of formulating the transmission plan, the utilities will need to make certain assumptions. For instance, if the preliminary report specifies 500 MW of geothermal power within a 100-mile radius of a given location, the plan could assume two 200 MW power plants and one 100 MW power plant at different points on the 100-mile periphery of the location. Similarly, assumptions will have to be made regarding the size and location of the wind farm substations. These assumptions will be based on the utilities' experience with existing facilities, including the responses to their solicitations to renewable generation developers for interconnection studies and the evidentiary record developed in this proceeding (e.g., the Tehachapi transmission project).
3. For each renewable generation cluster, the utilities are to identify possible transmission congestion beyond the first point of interconnection that would result if all of the identified renewable generators in such cluster won bids and signed contracts to provide "must-take" energy under the RPS Program. Potential transmission upgrades that may eliminate the congestion will be identified. For congestion that also involves conventional generators, different levels of transmission upgrades should be identified assuming a) the energy from all renewable generators in the cluster is "must-take" and the upgrade only eliminates congestion for such renewable energy; and b) the upgrade eliminates congestion for all generation on the relevant transmission facilities.¹

¹ An evaluation of how the market may value congestion, or how the market could manage potential congestion (as an alternative to expanding transmission) is beyond the scope of this initial study. However, this type of evaluation may be required in future refinements of the transmission plan, once the winning renewables bidders are identified.

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4. For each identified transmission project, the utilities will provide the transmission line voltage, approximate routing and substation modifications in general terms, along with conceptual engineering design information, including geographical maps and simplified electric diagrams. This information will be formulated based on the utility's engineering experience and will not necessarily require power flow network simulations. The utilities will also include cost estimates for each project at the conceptual level based on the utility's experience for each major category of project cost, e.g., conductor and breakers. In addition, the utilities will provide cost ranges for land acquisition, mitigation of anticipated environmental impacts, and other costs, as appropriate. Discussion should be provided where more than one transmission upgrade alternative is identified, or where multiple stages are warranted. Discussion should be provided regarding possible right-of-way issues and potential environmental issues encountered with the transmission line routing.
5. The utilities are expected to provide the information outlined in #3-#5 above for transmission projects related to renewable generation that have already been studied in accordance with the ISO's and utility interconnection tariffs. This information may be presented in appendices to the transmission study.
6. The utilities may provide some of the information required under this Scope of Study under Public Utilities Code §583, as appropriate. However, the utilities are advised that Commission's report to the Legislature will need to contain project cost ranges for each identified transmission expansion project. The utilities should work with Energy Division in developing a format for presenting that information in a public version of their proposed plans and in the December 1, 2003 Commission report, possibly using a format similar to the one developed for the cost information submitted in each monthly status reports.
7. Working with Energy Division, the utilities will develop a standardized table of contents and consistent formats for tables to include in their presentation of transmission plans to the Commission.

(END OF ATTACHMENT 2)

CERTIFICATE OF SERVICE

I certify that I have by mail this day served a true copy of the original attached Administrative Law Judge's Ruling on Development of Renewables Transmission Plan Pursuant to Senate Bill 1038 on all parties of record in this proceeding or their attorneys of record. In addition, service was also performed by electronic mail.

Dated February 26, 2003, at San Francisco, California.

/s/ FANNIE SID

Fannie Sid

N O T I C E

Parties should notify the Process Office, Public Utilities Commission, 505 Van Ness Avenue, Room 2000, San Francisco, CA 94102, of any change of address to insure that they continue to receive documents. You must indicate the proceeding number on the service list on which your name appears.